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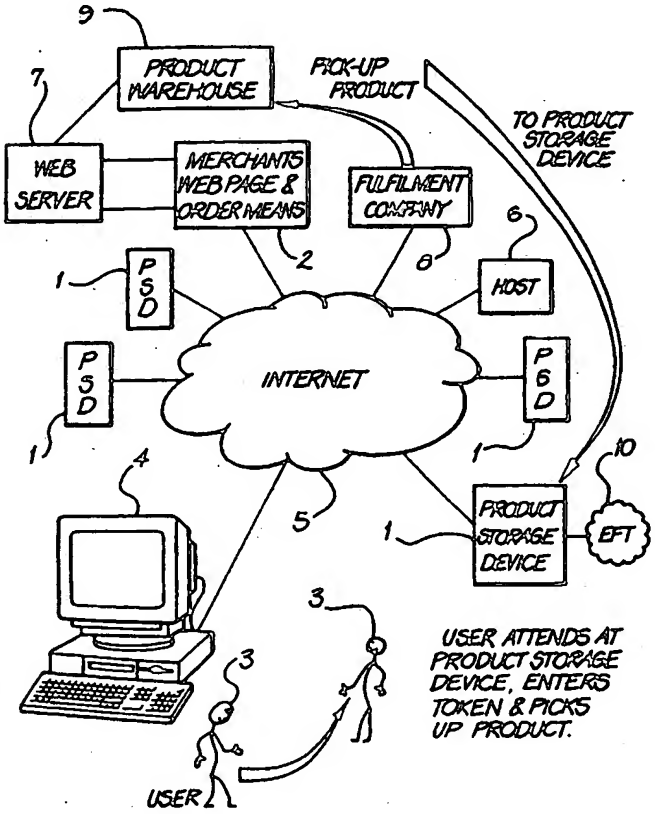
(54) Title: ELECTRONIC COMMERCE DELIVERY SYSTEM



(57) Abstract: The present invention relates to a delivery system, particularly for delivering product which has been ordered over a computer network e.g. the Internet, using electronic commerce. A major problem with electronic commerce is fulfilment. Delivery of product ordered on the Web is slow and unreliable. The present invention proposes providing a plurality of secure product storage devices placed at diverse geographical locations. The storage device is preferably networked via a host system. When a user purchases a merchants product via a merchants web site, a token is generated by the system (either via a link to the host or via an order means on the merchant system). The user receives the token. The system delivers the product to a product storage device in the geographical vicinity of the user. The user may be notified of delivery and then attends at the product storage device, inputs the token via an interface and the product storage device releases the product to the user. The product storage device may also be used for return of product to the system.

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ELECTRONIC COMMERCE DELIVERY SYSTEM

Background of Invention

Field

The present invention relates generally to a delivery system, and particularly, but not exclusively, to a delivery system and method for facilitating delivery of products ordered by way of a computer network, such as the Internet.

The following description will be given particularly in relation to the use of the Internet for ordering products for delivery utilising the system and method of the present invention. It will be appreciated, however, that the present invention is not limited to a particular computer network, and any computer network could be used to order products for delivery, such as an intranet, or any wide area network.

Background

The use of electronic commerce is becoming more prevalent, particularly with the advent of the Internet which enables individuals with access to the Internet to view Web pages of merchants offering products (by which we mean goods or services) for sale.

There are a number of problems which have possibly slowed the uptake of electronic commerce. These include security of payment - people are unwilling, for example, to give their credit card details over a network that they perceive to be insecure, and also delivery of goods. Presently, merchants have no real choice but to deliver using conventional postal services. This is slow, and not terribly reliable at times, and also does not give the purchaser the security of knowing that they have actually received the product before they have to pay (usually payment is required before delivery e.g., by way of credit card over the network). A product may remain undelivered

because of inadequacies of the postal service, for example, and even though the purchaser may be provided by the merchant with a receipt for payment, the merchant may be reluctant to provide further product in place of the undelivered product, as the purchaser can provide no real proof that their product has not been delivered. Alternatively, the merchant is open to fraud by unscrupulous purchasers who could deny that their product was actually delivered, and request further product. This could be prevented by courier delivery and signature, but this is still not entirely devoid of the possibility of fraud, and also requires additional expense on behalf of the merchant or purchaser in paying for the courier.

Yet another problem with the present system of ordering by the Internet or other computer networks, with delivery via messenger or courier service is the high cost of multiple small deliveries resulting from a relatively low level of order aggregation and fulfilment.

In Japan, convenience stores have been used as a location for consumers to collect their e-commerce orders (the system being physically administered by human operatives), however the cost to efficiently administer such a service on a 24 hour/day per week basis is high, and consumers have no way of being advised electronically, once their delivery is ready for collection.

A further problem exists relating to the logistics associated with returns of unwanted or faulty goods purchased using e-commerce ordering with delivery, or returning products via traditional retail methods.

In addition to return delivery cost is the inconvenience to consumers then having to arrange courier collection or having to travel to a traditional store and wait in queues.

Summary of Invention

The present invention provides a delivery system for enabling delivery of an ordered product, comprising a means for identifying a token and allocating the token to a product order, recording means for recording the token, a product storage device including storage means where ordered product may be deposited and input means enabling an intended recipient of the product to input the token, comparison means for comparing the token input by the intended recipient with the recorded token and means for releasing the product from the storage means to the intended recipient when the input token and recorded token are the same.

Preferably, the product is ordered via a computer network, such as the Internet. The order may be made by a user (intended product recipient) via his PC and the Web page of a merchant subscribing to the delivery system. Preferably, a plurality of merchants subscribe to the delivery system and products ordered via any one of the plurality of merchants may be delivered using the system of the present invention.

Preferably, each merchant has access to (it may be on their Web server or they may have access to a further Web server) the means for identifying a token. The token may be any token. It may be a number, for example, that may be generated and allocated to a particular order, and provided to the user over a computer network. Alternatively, it may be a credit card number or account identifier (or membership number) of the intended recipient. Where the user's token is a credit card number or unique account identifier which has been pre-assigned, there will be no need to provide the token as the user will already possess it. In this case, the user will be required to present the credit card number or enter their account identifier to the system.

Preferably, a delivery means is provided for delivering the product. The delivery means may be a simple courier system requested to pick up the product, e.g. from the merchant's warehouse and take the product to the product storage device nearest to the location of the intended recipient. Note that, preferably, the system includes a plurality of product storage devices, so that there are product storage devices in many locations. The courier is preferably provided with a key (which may be a code, card key or other identifier such as barcode, retina scan or fingerprint scan) which enables access to the storage means of the storage device so that he can deposit the product ordered by the intended recipient. Note that the delivery means may preferably be a "fulfilment" company, whose task it is to deliver products to the system and perhaps also to maintain the product storage devices.

Preferably, the product storage device is also connected to the computer network, (e.g. Internet) to enable access to the recorded token. An input means, such as a key pad, card reader or touch screen, is provided for the product storage device. When the user inputs the token, the product storage device compares the input token with the recorded token and if the tokens compare, then the product is released to the intended recipient. Alternatively, the input token may be a membership number or other unique identifier relating to the individual or the account, such identifier being the means to relate to orders for collection by that account.

Preferably, the product storage device includes a payment means, such as an EFT connection and card reader which enables a user to pay by debit or credit card via the secure EFT network.

The system of the preferred embodiment of the present invention therefore preferably enables certain delivery of product for the intended recipient and also enables payment on delivery as an alternative to payment before delivery.

Preferably, when the product has been delivered to the product storage device the user may be alerted that the delivery has been made, e.g. by electronic mail. One method of doing this is to have registered accounts or order files stored in the central database with e-mail addresses stored with the account and order information. When a product has been delivered to the product storage device the central database is accessed and the e-mail is transmitted.

Preferably, when delivery to the intended recipient has occurred, the product storage device produces a transaction record or causes a transaction record to be produced, which can act as a proof of delivery.

In one embodiment, an identification label may be provided on the product and the product storage device includes means for reading the identification label, which means may be present in the storage means. The identification means may be a bar code label, for example, which reproduces the token (where the token is a code). On delivery to the product storage device, the sensing means reads the token and can confirm to the system that the product has been delivered to the product storage device.

As discussed above, a further problem exists relating to the logistics associated with the return of unwanted or faulty goods, or goods for hire. Preferably, the system of the present invention further includes a return product storage device for receiving return product, the return product storage device being connectable to the computer network, and a means for advising the computer network when a return product has been deposited, so that the return product may be collected.

The return product storage device may be the same device that is used for product delivery, or may be a different device.

Preferably, the system further includes a means for identifying a return token associated with the return

product, the return token enabling identification of a user returning the product.

The account of a user can therefore be credited when the system is aware that the user has returned the product. The credit could be on return of the product to the product storage device or when the merchant/owner/host has received the product and validated that the product is the genuine return product.

In one embodiment, the user may log onto the computer network using, for example, their own computer, and advise the system that they wish to return a product. In return they are given the return token, which the system also stores. On attending at a product storage device to return the product, the user enters the return token on an input means on the product storage device. The system compares the input token with the identified token and if they match, allows the user to return the product to the storage device and confirms that the product has been returned. A receipt may be provided to the user.

In an alternative embodiment, no token is provided to the user. A simple return product storage device, for example, may include a bin with a sensor which detects when a product is returned to the bin. This is communicated over the network to alert a merchant or fulfilment company to attend at the bin to collect return product. The product may have an identifier which enables the system to identify the user for e.g. crediting the account of a user.

The present invention further provides a system for enabling return of product from a user to a merchant, comprising a return product storage device for receiving return product, the return product storage device being connectable to a computer network, and means for advising the computer network when a return product has been deposited, whereby the return product may be collected and returned to the merchant.

The deliver and/or return system of the present invention is very different from, for example, a post office box system. In a post office box system, the users address is the PO box and he has a key to access his own personal PO box. In the present invention, the product storage devices are preferably generic to be used for products for any user who utilises the system. They are preferably not dedicated to particular users.

The system of the present invention also envisages utilising infrastructure that may already be in place. For example, luggage locker systems could be networked to the present system for return of product, vending machines as described in the applicants earlier applications could also be used as product delivery devices.

Preferably the product storage devices of the present invention are secure.

The present invention further provides a method of delivering goods ordered from merchants remotely, comprising the steps of identifying a token and allocating the token to the product order made from the merchant, recording the token, delivering the product to a product storage device having an input means which may be operated by the intended recipient of the product, and storage means within which product can be deposited, enabling access by the product storage device to the recorded token, and arranging the storage device so that when the intended recipient inputs the token, the product is released to the intended recipient.

Preferably, the computer network is the Internet and the merchants offer products for sale via the World Wide Web.

On a user (intended recipient) selecting a product, the token is allocated and the user is advised of the token (or, alternatively the token might be the user's credit card number), as discussed above in relation to the system aspect of the present invention. The product is then

delivered to the device, the intended recipient is preferably informed that the product has been delivered to the device and can then attend at the device and obtain the product. Further, the intended recipient is also able to pay at the device. A credit card or other payment card could also be used as a token, as discussed above. A credit card could then be used as payment and also as a token, so that a single presentation of the card enables product delivery and payment.

The present invention yet further provides a method of facilitating return of a product, comprising the steps of receiving from a computer network an advice that a return product has been deposited in a return product storage device connected to the computer network, whereby the return product may be collected.

Brief Description of the Drawings

Features and advantages of the present invention will become apparent from the following description of an embodiment thereof, by way of example only, with reference to the accompanying drawings, in which:

Fig. 1 is a schematic diagram of a delivery system in accordance with an embodiment of the present invention;

Fig. 2 is a front view of a storage device which may be utilised in the system of the embodiment of Fig. 1;

Fig. 3 is a schematic diagram of a system utilising remote ordering devices which can be used as storage devices in accordance with the present invention;

Fig. 4 is a flow diagram showing example steps in the operation of a delivery system in accordance with the embodiment of Fig. 1;

Fig. 5 is a flow diagram illustrating a process of returning a product in accordance with an embodiment of the present invention;

Fig. 6 schematically illustrates a system for enabling the return of product in accordance with an embodiment of the present invention.

Detailed Description of the Preferred Embodiment

Fig. 1 illustrates schematically a system in accordance with an embodiment of the present invention. The system comprises a product storage device 1, which will be described in more detail later on, having storage means 201 (Fig. 2) in which goods can be deposited by an operative delivering the goods to the product storage device 1. Conventionally, when a product is ordered remotely over a network, such as the Internet, the product is delivered directly to the address of the orderer. With the present invention, delivery is to the secure product storage device 1.

The user 3 may order by way of his computer 4, from a merchants web page 2 provided by a web server 7, the product for delivery via the system. The merchants web page includes or has access to an order means.

The order means includes a means for identifying a token, which means may be, for example a number generator for generating sequential numbers each time a product order is raised. The token, which as discussed above may be simple number code, is provided to the user 3 via the PC 4, and also recorded in the system. Note that in this example, the token may be recorded at a host device 6 which the product storage device 1 has access to via the Internet 5. Alternatively, the token may be sent to the product storage device 1 designated for delivery of the product by the user 3. On attending at the product storage device 1, the user 3 enters the token via input means 208 (Fig. 2) and the product is released from the storage means 201 to the user 3. Alternatively, a credit card, account number of membership number could be used as the means for

identifying a person being authorised to collect an order placed for that account.

In more detail, the system of this embodiment includes a plurality of product storage devices 1 connectable to the Internet as illustrated in Fig. 1. The product storage devices have access to a host device 6 which includes storage means for storing data, including tokens generated by an ordering means that subscribing merchants have access to.

A plurality of merchants may subscribe to the system. The merchants require a Web server 7 or access to a Web server 7 so that they can put a Web page on the Internet that can be accessed by the user 3 in order to order goods. The merchants also require access to the order means. The order means may be software provided to the merchants and running on their web server, or maybe software provided to the host 6 and provided on a separate web page which the merchants have a link to.

Any token which serves to be allocated to and identify a particular product order can be utilised. The token may be a simple number generated by the order means and allocated to the product order. An alternative is for the credit card number of the user 3 to be used as a token or a part of the token. Note that the token may be encrypted for transmission over the network.

A fulfilment company (who may also be a manufacturer) 8 also has a system 8 connected to the Internet and on placing of an order at a merchant's Web page 2, the fulfilment company 8 is advised of the product order. Further, the token may be provided to the fulfilment company system 8 and utilised to generate an identification means, such as a bar code label, that can be affixed to the product or product packaging. An operative of the fulfilment company can then collect the product from a product warehouse 9 and transport the product to the selected product storage device 1. The product storage

device 1 is selected depending on the location of the user 3 and the order means will generally require this information to be input by the user 3.

In some cases more than one of the same product may be delivered to different storage devices at a number of locations, and the user may be offered multiple locations to collect the product. This could depend on their location, on travel plans, eg. their route home, at the airport, at school.

The fulfilment company operative has access to the storage compartments 201 (Fig. 2) and, in order for security, may need to enter a code, such as PIN, utilising PIN pad 208 barcode utilising a barcode scanner or other identifying means. The operative also enters the number of products that he is depositing and the doors to the requisite number of compartments 201 are opened. The products are placed inside. Sensor means (not shown) within the compartments 201, e.g. bar code readers, read the bar code on the product and identify the token. The product storage device accesses the recorded token, which is stored at the host 6, via the Internet 5 and compares the tokens and is therefore able to confirm to the host 6 that the product has been delivered. The host 6 then generates an electronic mail which is forwarded to the user's 3 computer 4, alerting the user that the product has been delivered to the product storage device 1. Host 6 may also advise the merchant's Web server 7 confirming delivery. Note that the token may be stored in memory at the product storage device as an alternative to requiring access on-line to the host 6.

The user attends at the product storage device, enters the token via the PIN pad 208, or if the token is the credit card, swipes the credit card via card reader 210A, the product storage device 1 compares the token input by the user with the recorded token and if there is a match, releases the product to the user by opening the door of the

respective compartment 201. The product storage device also advises the host 6 via the Internet that the user has taken delivery of the product, and the host can then advise the merchant that delivery has been made. The use of a token therefore enables the product to be tracked from ordering all the way through to delivery.

The product storage device 1 is also connected to a payment network, in this case an electronic funds transfer network 10. The user 3 can therefore pay on delivery of the product, rather than the prior art systems where the user must pay before the product is delivered and risk the fact that the product may not be delivered at all. The user, may, for example, swipe their credit or debit card in the card reader in order to enable payment, and the product may not be released until payment has been made. Alternatively, payment can be made on account via entry of an account number and PIN at the storage device. The storage device matches the account number entered with numbers that have been downloaded to the product storage device via the Internet or numbers that are stored on the host 6 or fulfilment company system 8 and are matched via Internet communications.

The fulfilment company may optionally e-mail confirmation of dispatch and an ETA of delivery, to various parties involved, including the computer 4 of the user 3, on receiving the order.

Note that the sensor in the compartment can sense that the goods have been removed and generate a transaction record, to absolutely confirm that product has been delivered. As discussed above, the transaction record (proof of delivery) is transmitted to the host 6 and it can also be transmitted to other parties depending on who is listed in a preset database of the host, e.g. the fulfilment company, original manufacturer, user 3, etc.

Note that as an alternative to a fulfilment company 8 picking up a product and delivering it, is having product

already pre-stored in the storage device 1, i.e. in a similar sense to a vending machine. The user 3 still orders from the merchant's Web page 2 and a token is generated as discussed above. In this case, however, the user is advised that the product is already available at the product storage device 1. The user attends, as discussed previously, at the product storage device 1, enters the appropriate token and removes the product. Operation, product tracking, is essentially the same apart from the fact that a fulfilment company 8 is not involved and delivery is unnecessary. Of course, the fulfilment company 8 may be involved in re-stocking the product storage device 1 with further products which can be ordered later on. The merchant Web page 2 may flag that the product is available in the storage device.

Note that the merchant may be a supplier using an e-commerce system provider such as Ariba, Netscape or Commerce One, etc.

The product storage device 1 will now be described in more detail in relation to Fig's. 2 and 3. Note that the product storage device may be any device which can be connected to a network and includes storage means for storage of product, input means, means for releasing the product from storage means and enabling deposit of the product in storage, sensor means for reading the identification means on products and means for enabling payment to an EFT network (in the preferred embodiment). In earlier patent applications, the co-applicant, Imaging Technologies Pty Limited, has disclosed remote ordering devices which include these features and others, and these remote ordering devices with some modification are suitable as product storage devices in accordance with the present invention. Remote ordering devices and networks of remote ordering devices are disclosed in detail in PCT/AU93/00416, PCT/AU95/00154 and PCT/AU97/00058, the disclosure of which earlier filed patent applications is considered

incorporated herein. One of these devices, suitable for use as a remote storage device, will now be briefly described in relation to Figs 2 and 3.

Referring to Fig. 3, a "one stop shop" remote ordering device 100 is illustrated schematically in block form, which is able to operate as a product storage device 1 in accordance with an embodiment of the present invention. The device is arranged to enable a user to purchase a product which may be vended on site or which may be ordered from a host 101 to which the device 101 is connectable by a communication means 102 (which may be a telephone connection, for example, a dedicated line, or other type of network connection, such as the Internet. In the case of this embodiment of the present invention, the Internet is the preferred network connection medium), for later delivery. The device also enables the user to enter and purchase information (e.g. from a connection 105 to the Internet 106) and is operable without cash. Instead the users credit may be checked by connection 104 to a bank network 103 (e.g. EFT). In Fig. 1 the device is shown connected directly by a link 103 to the bank network 104. Alternatively, the bank network 104 may be accessed via the host 101.

Host 101 and remote ordering device 100 together comprise a remote ordering/vending system.

The device may be positioned at any convenient location, in a store, an office, an office lobby, a factory, a shopping centre, on a street corner, for example, to enable multiple users access to the automated "one stop shop" facility offered by the device and system.

The remote ordering/product storage device 100 includes a control means 110, which comprises a computer for controlling local operation of the device. The computer includes appropriate software for controlling the device. The device 100 further comprises a card reader 111 for identifying a user by means of magnetic card swipe; a

data entry means 112, which may comprise any means for entering data, such as a keypad, audio interface for digitising voice, a printer 113; a video display 114 (which in this embodiment is a touch-screen and therefore also operates as a data entry means 112); a database 115, which may contain product means, information, information on users etc., (in this embodiment the database 115 is in memory in the device 100, and will in fact be stored in the computers memory where the control means 110 comprises a computer, but the database 115 or part of the database, such as user information, for example, may be stored off-site, at the host device 101, for example, and the device 100 may have access to the database, with only an amount of the database that is required for immediate use of the device 100 being maintained on site); a storage and dispensing means 116 for storing and dispensing product locally on site (in the present invention, for operation as a product storage device, sensing means, such as bar code readers, are included within the storage means 116); a product identification means 117 arranged to identify an article so that a product associated with the article can be determined. The article may be a bar code, magnetic card, an object, a returned product etc.; and a communications means 118 for interfacing with the communications connection to the host 101, bank network 104, Internet 106 and any other required connection.

Other devices 200, 300, 400 may be connected in the system to the host 101. These devices may be the same and offer the same functions as the device 100 or may offer varying functions. For example they may offer different types of products. One or more devices may not offer a vending facility, but will offer an electronic ordering facility. One or more may just offer a remote ordering facility, without it being possible to order goods or other services. In accordance with the present invention, each of the devices may be used as a product storage device 1.

Fig. 2 is a front view of a device in accordance with Fig. 3, illustrating the hardware configuration. Preferably, the hardware comprises the following components, and reference numerals included in brackets indicate how the components relate to functional blocks of Fig. 1.

A magnetic card reader 210a (card reader 111) is provided for user identification. Note that a smart card reader or the like may be provided in the alternative or in addition to the card reader 210A. A VDU (visual display unit) 210 (display 114), is provided to provide information to the user relating to operation of the device. The colour monitor 210 may have a touch-screen facility so that the data entry means 112 also comprises a touch-screen input. This facilitates interaction with the customer. A customised PIN pad 208 and interface buttons 208a are also provided in the illustrated embodiment, but all the functionality of the PIN pad 208 and button 208A may be replaced by the touch-screen 210 in other embodiments and the PIN pad 208 and buttons 208a may be dispersed with.

Storage means are provided in the form of compartments 201 (116), each having a separately lockable door (116). It will be appreciated that the storage means could have many other configurations (see applicants earlier PCT application PCT/AU93/00416). In this embodiment each compartment 201 door includes a latch which is controllable by the control means 110 to release the door so that it can be opened so that a user can take a product stored therein or replace a returned product in the compartment and then shut the door. An appropriate mechanism for retaining and opening the doors is described in PCT/AU93/00416, and will not be described any further here. Further, other types of storage means may be provided in compartments with doors, although these are the preferred storage means. For example, a product may be delivered by way of a chute (see earlier PCT application PCT/AU93/00416) from a stack of

products. The device also mounts a computer module 220 (control means 110). The computer module 220 is inside the cabinet and inaccessible to the user except via the user input means. Components of the computer module 220 are schematically illustrated. A person skilled in the art will be able to realise an appropriate configuration of the computer module 220 components from this description. Computer module 220 comprises an INTEL based "pentium" processor 221; a 56K band external modem 222 (communication means 118) for communication with the host device 300; 4000 MB or large hard disc drive 223, 3.5 inch floppy diskette drive and CDROM/DVD 224 and 128 MB of RAM 225, constituting a memory for the computer 220. A sound card 226 for the reproduction of audio files is provided. A suitable audio means is provided to reproduce sound including a speaker (not shown in the drawing). A video capability such as MPEG or quicktime for video images is also provided. An input and output controller card 227 is provided for receiving signals indicative of products being removed from and placed in the compartments 201. The input and output controller card 227 detects whether a product is returned or removed from a compartment and provides appropriate signals to the processor 221. A receipt printer 228 (221) is also provided for printing user receipts.

The keypad 208, 208A, may be any convenient type of keypad which will enable a user to carry out operation of the device. Generally, it will comprise numeric keys 0 to 9, scroll keys, to enable scrolling of a display appearing on the screen 210 and selection keys 208A to make a selection of a particular item appearing on the screen next to the particular key 208A. As discussed above, where a touch-screen interface is provided, as it is in the preferred embodiment, some keys may not be necessary or the keyboard may even be dispensed with entirely.

A bar code scanner 229 is also provided for scanning bar codes to identify products, (product identification means 117).

Note that, as an alternative to the rather complex device as discussed above in relation to figure 2, the product delivery device 100 may be a low cost device which includes merely a means for inputting a token and storage means for storing a product.

Further, in some cases, the storage means need not even require a physical input means such as eg. a keypad on the storage device. In an alternative embodiment, the input means could be a mobile communications device such as a cell phone, "Palm Pilot" (or other small computing device or portable computer) possessed by the user. The user can use the mobile communications device to communicate via the Internet with the host device or product storage device. The Mobile communications device (or auxiliary device) carried by the user contains and transmits the unique identifier (such as an order number, membership number or account number) which is matched with the unique token for the product stored in the storage device. The mobile communications device therefore acts as the input means and the storage device merely needs a connection with the network. In a further alternative, the storage device may have means for communicating directly with the mobile communications device, such as infra-red communications means.

Referring to Fig. 4, a description of operation of the device will now be given, in relation to an embodiment which enables ordering and delivery of prescription drugs using the secure delivery system.

A user 3 consults a doctor and the doctor decides that the user requires a certain prescription drug. At step 30, the doctor accesses, via the Internet 5, a Web site 2 of a merchant who has a license to distribute pharmaceuticals and who also subscribes to the delivery system of the

present invention. At 31, the doctor orders the prescription drug for delivery to a product storage device 1 and enters location details of the intended recipient. The system then selects the appropriate product storage device 1 and advises the doctor.

At 32, the ordering means generates a token, in this case a five digit code number, which is allocated to the product order and also advises the doctor of the token. The doctor provides the token to the intended recipient. The token may also be provided to the host for storage in a database together with details of the product order.

At 33, the system alerts the fulfilment company that product delivery is required, and gives details of the location of a product storage device.

At 34, the fulfilment company 8 generates a bar code with the token, for attachment to the product at the product warehouse 8 when the operative picks up the product. The fulfilment company operative then delivers the product (step 35) to the storage means in the product storage device 1.

On depositing the product in a compartment 201, sensor means within the compartment scans the bar code and then advises various parties via the Internet 1 that the product has been delivered to the product storage device 1 (step 36). The parties advised include (they may be advised via the host 6):

(a) the intended recipient who may be advised via e-mail if he has his own computer or from the doctor via the doctor's computer and a phone call.

(b) The fulfilment company 8 so that the fulfilment company knows that the operative has delivered the product to the product delivery device.

(c) The merchant 7, for the purposes of tracking the product delivery.

At step 37, the intended recipient attends at the product storage device and enters the token via the input means 208.

At 38, the product is released to the intended recipient, and the system advises the above parties that the product has been delivered. Also, a receipt may be generated via receipt generating means. Release of the product may not be enabled until the payment has been made via card reader 210 and the EFT system 10.

Although the specific embodiment described above relates to distribution of pharmaceuticals, it will be appreciated that any products can be distributed using the system of the present invention.

The system of the present invention preferably enables a number of merchants to subscribe to a secure delivery system and has the advantage that users need not pay until the goods are delivered.

In the above embodiment, the user orders the product from a computer at home or in the office. In a further alternative, the storage device may also include a user interface which enables the user to order the product from the storage device, ie. over the Internet or any other network connection. The product is ordered for delivery later, eg. the next day, when the user can return to the product storage device (or another product storage device with specified location) where the product has been delivered, and enter the token receive the product.

In yet a further alternative, the user can order the product at the product storage device and specify it delivered to another location, eg. their home address. The deliverer could then require the token from the user, before delivering the product. Where the token is a credit card, the courier could carry a portable EFT device. Portable EFT device could connect to the network.

Another issue which needs to be addressed, particularly with electronic commerce, is product return. That is, products which are re-useable (e.g. videos, DVDs,

and other products) and products that are faulty generally require returning to the merchant. In conventional commerce, this is generally done by attending at the point of sale (e.g. merchant outlet). With electronic commerce, however, product return is logistically more difficult. It is the inverse problem to product delivery.

Embodiments of the present invention may be utilised to facilitate product return as well as product delivery.

In one embodiment, a product storage device 1 as described in relation to figures 1, 2 and 3, may be utilised for product return. Further, the system disclosed in the figure 1, in this embodiment, may be utilised to alert the merchant that a product is to be returned or has been returned to a product storage device 1 (so that the return of product can be collected, for example), and to provide the user with a receipt for the return of the product which later on can be used to enable application a credit return to the user, or can be used to directly provide credit to a user account.

With reference to figure 5, operation of an embodiment of a product return system in accordance with the present invention will be described.

In this example a user may have purchased a product which they have subsequently found to be faulty, or which they have decided that they do not want, and they wish to return to the merchant to obtain a refund or credit note for further products. The product may or may not have been obtained by utilising the embodiment of the system described above.

Referring to figure 1, at step 50 the user accesses the merchant web pages 2 of the relevant merchant and advises them that they wish to return the product. This may be done by means of a web page form, for example, or any convenient means. The form may require the user to identify the product or may not. Preferably, identification of the product is required and also identification of the user 3.

At step 51, the order means 2 (which may be software on the merchant's web server 7 or may be provided via a link to the host 6 of the system, in a similar manner to the product delivery process described above) identifies product return token and provides the product return token to the user 3 via the PC 4 (step 51). The order means also advises the host 6 of the product return token.

At step 52, the user attends at a product storage device 1 in their geographical locality. The user utilises the user interface in order to enter the product return token to the product storage device 1. In this embodiment the product storage device 1 is as described above in relation to figures 2 and 3. When the user has entered the token, a compartment 201 door opens and the user deposits the product into the compartment. The user closes the compartment door.

At step 53, following the return of the product to the product storage device 1, the merchant is advised via the system and host 6 that the product has been returned (step 53). In this embodiment, the fulfilment company is also advised of the product return. Further, the product storage device 1 in this embodiment issues the user 3 with a receipt, confirming return of the product. Where sensing devices are provided within the compartment 201, these can be used to sense that the product has been placed in the compartment and also confirm this to the merchant.

Note that the fulfilment company may be, alternatively, advised by the merchant that the product is to be picked up. The product storage device 1 and/or host 6 advise the fulfilment company 8 and merchant of the location of the product storage device and the fulfilment company representative attends at the product storage device and picks up the product (which they may do as part of a general servicing of the product storage device i.e. picking up a number of products and depositing others).

The fulfilment company delivers the returned product to the merchant (step 54).

At step 55, the merchant credits a user account with a value for the returned product. The user account may be a bank account and the credit may be via the Internet of via EFT, or it may be an account with the merchant e.g. crediting the user for purchase of further goods at a subsequent time. Generally, the system allows for any type of user account to be credited.

The above example describes how a purchased product is returned because it is perhaps faulty or the user does not require it after all. The system is also suitable for the return of hired products e.g. videos, DVDs, books and other products. In the case of the return of such a product, the user account may not be credited, but a user database with the leasing merchant may be notified that the user has returned the product.

Various embodiments of this system and method may enable a number of variations on;

a) how the user notifies the merchant of return of a product;

b) the type of product storage device used for return; and

c) how credit return to the user is dealt with.

Variations on the way that the user can notify the merchant of product return include the following:

1. the user may return the product to a product storage device and then advise the merchant via e.g. the Internet that the product has been returned, so that a fulfilment representative can attend at the device and pick up the returned product.

2. The product storage device as described above in relation to figures 2 and 3 includes a communication means for communicating with the merchant computing system 7 and the host 6. The user attends at the product storage device with the product that they wish to return, and contacts the merchant 7 and/or host 6 via the interface on the product storage device 1, and enters the details of the returned product in a similar manner as discussed above. The system

provides the user with a returned product token which acts as a receipt.

3. In another alternative, the user need not themselves notify the merchant of product return. The product may be physically associated with an identifier, such as e.g. a barcode on the product. The product is returned to a product storage device 1 by the user. A sensor in the product storage device may notify the merchant and/or host that a product has been returned. The product is subsequently collected from the product storage device and returned to the merchant, who can identify from the identification means the user who the product was delivered to in the first place, and therefore can deal with any appropriate crediting of the users account.

4. The user returns a product to the product storage device 1. The user enters into the product storage device 1 details of the product being returned and receives a receipt (token) in return. The product storage device 1 subsequently notifies the merchant of return of the product, and the product can be subsequently picked up and the user credited.

Note that the token or identifier may be the same token as is used for product delivery if the product was delivered by the system of the present invention described above.

Credit may also be returned to the user in a number of different ways.

1. When the user returns the return product to the product storage device, the system operates to process credit to the user immediately and issue the credit to the credit, debit or account stored on file for the user, the user being a registered consumer/member of the system.

2. Immediate credit being processed at the product storage device and issued to the credit/debit account used to purchase the product originally.

3. Credit being immediately processed on return of the product to the product storage device and issued to a credit

card/debit card or any account presented by the consumer to the product storage device at the time the consumer is at the device returning a product. For example, the product storage device 1 may be provided with a card-swipe and EFT connection to enable a count to be credited directly.

4. Any of the above methods, but where there is not immediate processing of credit, but instead the credit is not processed until a fulfilment representative has arrived at the product storage device to collect the return items and verify that the return items are valid. The fulfilment operative may enter into the product storage device confirmation that the return products are valid and then the credit is automatically processed.

5. Any of methods 1 to 3 above, the credit is not processed immediately and only when the merchant receives the product return and verifies that the return product is valid.

A further alternative embodiment of the present invention will now be described in relation to figure 6.

In figure 6, a plurality of return bins 400 are networked via the Internet to a host 6, a merchant system 7, a fulfilment system 8 (similar to the embodiment of figure 1). The return product drop bins 400 include a return slot 401 for receiving product and optical sensors (not shown) within the return slot. A processor within the return product bin 400 records the time and date that return of a product is detected by the optosensor. The host 6, merchant system 7, fulfilment system 8 may then be advised via the communications system. Note that the host 6 only may be advised and subsequently the host 6 may advise the merchant system 7 or fulfilment system 8, or any permutation of this.

A fulfilment representative can then attend at the bin 400 and remove the products. The products may have identifiers e.g. barcodes, as discussed above, in order to identify the user that returned the product so that a user account can be credited or it can be confirmed (e.g. if the product is merely a hire product) that the user has

returned the product. The drop bin 400 does not in this embodiment include any facility for inputting a token. It nevertheless provides a simple system for enabling the return of product, which does not require as complex hardware as the product storage device of figures 2 and 3.

In yet a further alternative embodiment, the product storage device having an interface to the system that the user can access (e.g. such as a product storage device described in relation to figures 2 and 3) may be associated with a simple product return bin such as the return bin 400 described in relation to figure 6. The return bin may be connected by communications means to the relatively complex product storage device 1, which is in turn connected via communication means (e.g. the Internet) to the rest of the system.

In a further alternative embodiment, a storage bin 400 may be associated with a single merchant e.g. each merchant may have their own product return bin. They may be directly networked to the particular merchant or via a host system which acts as a portal to the particular merchant. A plurality of bins may be connected to a complex product storage device such as described in relation to figures 2 and 3, one bin for each merchant.

Product storage device, whether it be a return bin, a device for delivery of product, or a combination of both, can take many different forms, and is not limited to the forms as discussed above. Other forms may include:

1. A form similar to standard vending machines which uses robotic arms to remove or place products from/in compartments.

2. Systems similar to luggage storage systems. A luggage system includes luggage storage compartments where a user can swipe a card and pay for a number of days storage. A token (such as a security key or pin or password) is provided to the user on their entering their goods into the compartment. This token is used to release the goods. Such a system could be used as a return product system, the

luggage storage system being networked, as discussed above. It could also be used to deliver product to a user.

Both the product delivery system and product return system of this invention, in one embodiment may include a database (which may be stored by the host system 6, for example), which stores details of merchants that are registered with the system, locations of the devices (product return, product storage or combined devices), details of consumers that are registered with the system (users) and also details of fulfilment companies registered with the system. Provision of such a database enables the system to have intelligence. For example, a merchant may wish to use a particular fulfilment representative in order to collect or distribute product on their behalf. The database links the merchant with the preferred fulfilment company. Further, consumers may be registered only for particular merchants and the database would keep details of this.

The database may be utilised by the system when users access the database via their own computer, for example, to determine which merchants the user is connected with, (for example, if they are only connected with a selection of the subscribing merchants). Further on return of products, the database can be used to select which merchant and which fulfilment company to send information that a return product has been returned.

The database may enable functionality such as, when a user is returning a product of a product storage device having an interface, to enable the user to select and identify a merchant out of many different subscribing merchants enabling return of an item to one of a number of merchants. For example, a unique storage compartment (or number of storage compartments) are allocated to the merchant that the returnee selected to return an item to and the merchant is notified of a pending collection. When the merchant or representative of the merchant arrives at the device and identifies themselves with a token unique to that merchant, the relevant storage compartment will be opened so

that the product can be extracted. Utilising the database, the system can be set up to enable merchants, fulfilment partners and consumers to be identified as separate groups so that only transactions and information relevant to them is available to them. This enables transaction status to be tracked across the network by multiple parties who have log in accounts (consumers, merchants, and fulfilment companies). For example, with product return, the return transactions are recorded with a status and the system automatically updates the status of the transaction when an action occurs, e.g. as in the following table.

Status	Description	Action
RLR	Return logged remotely	Consumer completes form on the Internet to log a return request.
RLL	Return logged locally	Consumer registers a return request at a return/delivery device.
IRP	Item returned to storage	Consumer lodges an item/s at delivery/return
FCI	Fulfilment Rep collects item	Fulfilment rep collects item from storage at a location
FVI	Fulfilment Rep verifies item	Fulfilment rep verifies item and requests payment credit
RPP	Return item payment processed	Credit processed against consumer account
MVI	Merchant rep verifies item	Merchant verifies item and approves payment credit

Status codes can be logged with consumer identifiers, merchant identifiers, locations and unique transaction identifiers. A unique transaction identifier can be initiated and tracked through the various status codes. Payment "requested" and "processed" status codes can be recorded with information about the type of payment credit.

Note that, as with the product delivery system, a token can be any token, including credit card, debit card number of a person, a password, a PIN code or e-mail address.

Accounts credited or debited could include hotel guest accounts (where the token could be a room key), or a communication service provide a billing account where the token could be a phone number and PIN code or e-mail account and PIN code.

In the above described embodiments communications system used is the Internet. It should be noted that any communications system could be used e.g. a wireless communications system, CSML, EDI, etc.

It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the invention as shown in the specific embodiments without departing from the spirit or scope of the invention as broadly described. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

CLAIMS:

1. A delivery system for enabling delivery of ordered product, comprising a means for identifying a token and allocating the token to a product order, recording means for recording the token, a product storage device including storage means where ordered product may be deposited, input means enabling an intended recipient of the product to input the token, comparison means for comparing the token input by the intended recipient with the recorded token and means for releasing the product from the storage means to the intended recipient when the input token and recorded token are the same.

2. A system in accordance with claim 1, wherein the product storage device is connectable to a computer network, and the means for identifying a token is connectable to the computer network, whereby the product storage device can access the recorded token via the network.

3. A system in accordance with claim 2, further comprising a delivery means, enabled to alert a delivery operative to deliver the product to the product storage device.

4. A system in accordance with claim 2 or claim 3, wherein the ordering of the product is done over a computer network from a merchant system connected to the computer network, and wherein the merchant system has access to the means for identifying a token and allocating the token to a product order.

5. A system in accordance with claim 4, wherein a plurality of merchant systems connected to the computer network from which products may be ordered have access to the means for identifying a token and allocating the token to a product order, whereby products may be ordered from any one of the plurality of merchants and delivered to a product storage device.

6. A system in accordance with any one of claims 2 to 5, wherein the intended recipient has means for connecting to the computer network so that the token can be provided over the computer network to the intended recipient.

7. A system in accordance with any one of claims 2 to 5, wherein the intended recipient has means for connecting to a computer network, and wherein the token is an identifier provided by the intended recipient.

8. A system in accordance with claim 7, wherein the token is a credit card number, debit card number or other identifier associated with a means for payment to be applied by the intended recipient.

9. A system in accordance with any one of the preceding claims, including a plurality of product storage devices in a plurality of locations.

10. A system in accordance with any one of the preceding claims, wherein the product storage device includes sensor means for detecting the product stored, so that the product storage device may confirm that the correct product has been delivered to the product storage device.

11. A system in accordance with claim 10, further including an identification label generating means for generating an identification label for affixing to the product, and wherein the sensor means comprises means for detecting the identification label to identify the product.

12. A system in accordance with any one of claims 2 to 11, wherein the network is the Internet.

13. A system in accordance with any one of the preceding claims, the product storage device also including input means enabling connection to a payment network, such as an electronic funds transfer network, enabling payment for the product order by the user at the product storage device.

14. A system in accordance with claim 13, wherein the product storage device is arranged only to release the product to the user after payment has been made.

15. A system in accordance with any one of claims 1 to 14, wherein the input means is a mobile communications device operated by the user, such as a portable computer, small portable computing device, or mobile phone, which includes means for communicating with the network or with the storage device so that the intended recipient may input the token.

16. A system in accordance with any one of claims 2 to 15, further comprising a web server including a database comprising information to identify the location of product storage devices, whereby users connected to the Internet can locate their nearest product storage device.

17. A system in accordance with claim 16, wherein the database stores the latitude and longitude of the product storage device.

18. A system in accordance with claim 16, wherein the database stores the location of the device and means are provided enabling users to identify their nearest location and use mapping software to provide a map of the nearest product storage location.

19. A system in accordance with any one of claims 1 to 18, comprising a database arranged to store a token associated with a person and the address or location of the person for the purpose of identifying their nearest storage device.

20. A system in accordance with any one of claims 2 to 19, further including a return product storage device for receiving return product, the return product storage device being connectable to the computer network, and means for advising the computer network when a return product has been deposited, whereby the return product may be collected.

21. A system in accordance with claim 20, a merchant computing system being connected to the computer network

and being arranged to receive the advice that the return product has been deposited.

22. A system in accordance with claim 20 or claim 21, including a host computing system connected to a computer network and being arranged to receive the advice that a return product has been deposited.

23. A system in accordance with claim 20, 21 or 22, further including a means for identifying a return token associated with the returned product, the return token enabling identification of a user returning the product.

24. A system in accordance with claim 23, wherein the return product storage device includes input means enabling a user to input the return token on returning the product, and the means for advising the computer network when a return product has been deposited includes a comparison means for comparing the input return token with the identified return token to a determination that the product has been returned.

25. A system in accordance with any one of claim 23 or claim 24, wherein the means for identifying the return token includes a return token generating means, arranged to generate the return token in response to a user advising the system that they wish to return a product.

26. A system in accordance with claim 25, the system being arranged to receive the user advice that the user wishes to return the product from a user computer connected to the network, and to provide the return token to the user computer.

27. A system in accordance with claim 24 or 25, the product storage device having an interface by which the user may indicate that they wish to return product, the system being arranged to generate the return token in response to this indication and provide the token to the user via the interface on the product storage device.

28. A system in accordance with any one of claims 20 to 27, wherein the means for advising the computer network

when a return product has been deposited includes a sensor means which senses when the product is returned to the product storage device, and a processing means responsive to the sensor means to advise the computer network that the product has been deposited.

29. A system in accordance with claim 28, wherein the return token is provided recorded by an identification means on the product.

30. A system in accordance with any one of claims 20 to 29, when return product storage device is the same as the product storage device.

31. A system in accordance with any one of claims 4 to 24, wherein the product storage device is a separate product storage bin arranged to receive return products.

32. A system in accordance with any one of the preceding claims, wherein the product storage device is a vending machine which is also arranged to vend products that are pre-stored on site and are ordered directly by a user attending a machine, identifying the product they wish to order and ordering it.

33. A system in accordance with any one of the preceding claims, wherein the product storage device is arranged to be used for a plurality of users and is not dedicated to any particular user.

34. A system in accordance with any one of claims 20 to 31, further comprising a crediting means for crediting a user account when a return product has been returned.

35. A method of delivering goods ordered from merchants, comprising the steps of identifying a token and allocating the token to a product order made from the merchant, recording the token, delivering the product to a product storage device having an input means which may be operated by the intended recipient of the product, and storage means within which product can be deposited, enabling access by the product storage device to the recorded token, and arranging the storage device so that when the intended

recipient inputs the token, the product is released to the intended recipient.

36. A method in accordance with claim 35 wherein the goods are ordered from the merchant over a computer network, and the token is recorded on the computer network, comprising the further step of enabling access by the product storage device to the computer network to access the recorded token.

37. A method in accordance with claim 36, comprising the step of providing the token to the intended recipient over the computer network.

38. A method in accordance with claim 36 or claim 37, comprising the step of the intended recipient providing the token as an identifier over the computer network.

39. A method in accordance with claim 38, wherein the token is a credit card number, debit card number or other identifier associated with a means for payment to be applied by the intended recipient.

40. A method in accordance with any one of claims 35 to 39, comprising the steps of detecting the product stored, so that the product storage device may confirm that the correct product has been delivered to the product storage device.

41. A method in accordance with claim 34, including the further step of generating an identification label for affixing to the product, and, when the product is delivered the product storage device, detecting the identification label and confirming that the correct product has been delivered to the product storage device.

42. A method in accordance with any one of claims 35 to 41, comprising the further step of enabling the intended recipient to make payment, by way of connection to a payment network, at the product storage device.

43. A product storage device arranged for use with the system of any one of claims 2 to 4, and comprising an input means enabling an intended recipient of a product to input

a token, means for communicating with a computer network, and means for releasing the product from the storage means to the intended recipient when the input token and recorded token are the same.

44. A computer readable media, including instructions for providing a means for identifying a token and allocating a token to a product order or return, for access by a system in accordance with any one of claims 1 to 34.

45. A method of delivering goods ordered from merchants, comprising the steps of identifying a token allocating the token to a product ordered made from the merchant, recording the token, delivering the product to an entity or address for the intended recipient, and only releasing the product to the intended recipient when the intended recipient provides a token which matches the identified token.

46. A system for enabling return of product from a user to a merchant, comprising a return product storage device for receiving return product, the return product storage device being connectable to a computer network, and means for advising the computer network when a return product has been deposited, whereby the return product may be collected and returned to the merchant.

47. A system in accordance with claim 46, a merchant computing system being connectable to the computer network and being arranged to receive the advice that a return product has been deposited.

48. A system in accordance with claim 46 or claim 47, a host computing system being connected to the computing network and being arranged to receive the advice that a return product has been deposited.

49. A system in accordance with claim 46, 47 or 48, further including means for identifying a return token associated with a return product, the return token enabling identification of a user returning the product.

50. A system in accordance with claim 49, further comprising user input means associated with the return product storage device enabling a user to input the return token on returning the return product, the means for advising the computer network including a comparison means for comparing the input token with the identified return token, to determine that the return product has been returned.

51. A system in accordance with any one of claims 47 to 50, wherein the means for identifying a return token includes a return token generating means arranged to generate a return token in response to a user advising the system that they wish to return a product.

52. A system in accordance with claim 51, the system being arranged to receive the user advice that the user wishes to return the product from a user computer connected to the network, and to provide the return token to the user computer.

53. A system in accordance with claim 51 or 52, the product storage device having an interface by which the user may indicate that they wish to return product, the system being arranged to generate the return token to this indication and provide the token to the user via the interface on the product storage device.

54. A system in accordance with any one of claims 46 to 53, the return product storage device including a sensor means which is arranged to sense a return product being returned and processing means responsive to the sensor means for advising the computer network that a product has been returned.

55. A system in accordance with claim 54, wherein the return token is provided recorded by an identification means on the product.

56. A system in accordance with any one of claims 46 to 55, including a means for crediting a user account when a return product has been returned.

57. A method of facilitating return of a product, comprising the steps of receiving from a computer network an advice that a return product has been deposited in a return product storage device connected to the computer network, whereby the return product may be collected.

58. A method in accordance with claim 57, including the further step of identifying a return token and associating a return token with the return product, the return token being arranged to enable identification of a user returning the product.

59. A method in accordance with claim 58, comprising the further step of receiving a return token from the user returning the product, and comparing the input return token with the identified return token and determining, if the tokens match, that the product has been returned.

60. A method in accordance with any one of claims 57, 58 or 59, wherein the step of identifying the return token comprises the step of generating the return token in response to a user advising that they wish to return product.

61. A method in accordance with claim 59, the step of the user advising that they wish to return a product taking place over a computer network.

62. A method in accordance with claim 61, the user using a user computer in order to advise that they wish to return a product.

63. A method in accordance with claim 61, the user using an interface on a product storage device to advise that they wish to return a product.

64. A method in accordance with any one of claims 57 to 63, comprising the further step of sensing when a return product is deposited in a return product storage device.

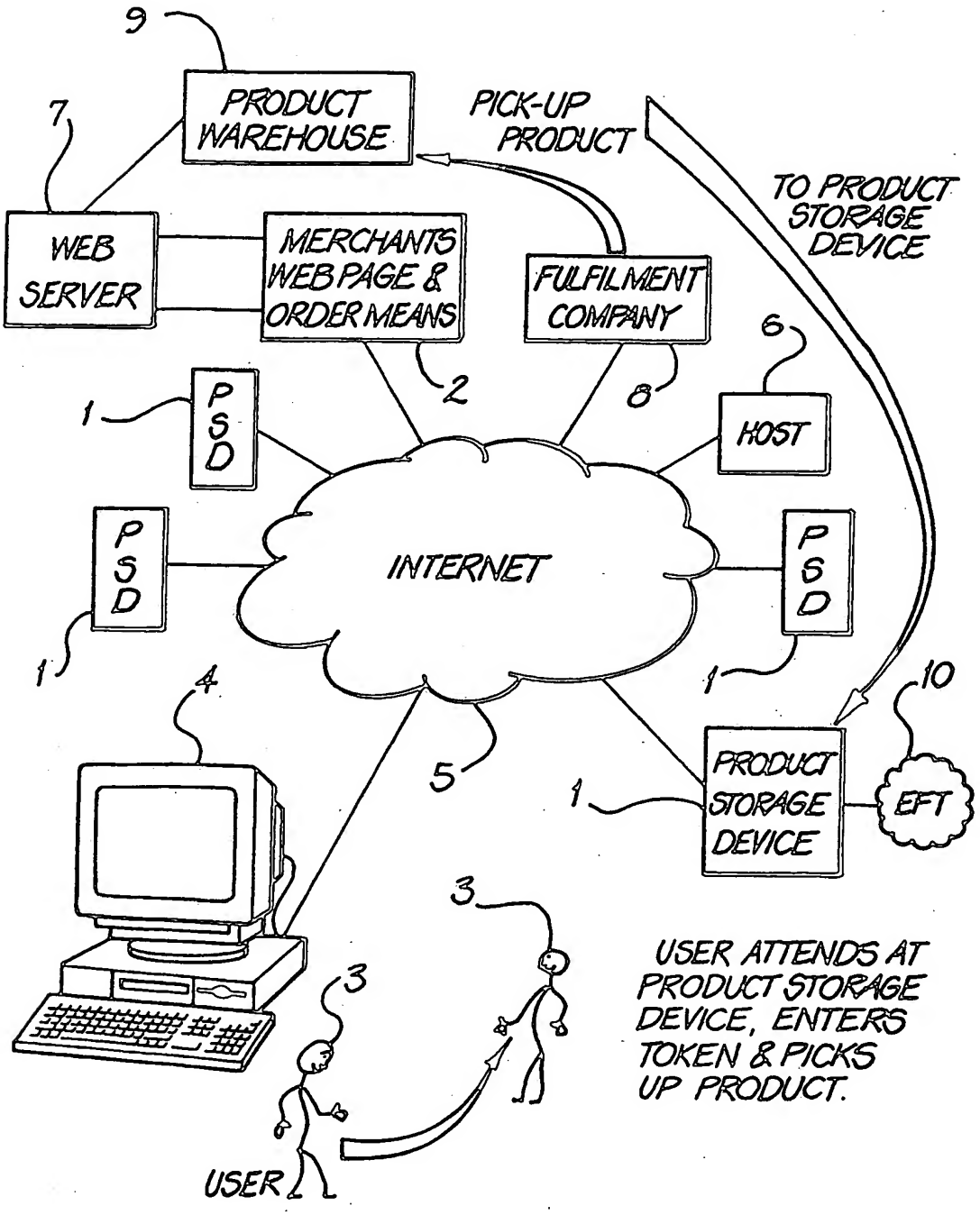
9
PRODUCT WAREHOUSE
PICK-UP PRODUCT
TO PRODUCT STORAGE DEVICE
7
WEB SERVER
MERCHANTS WEB PAGE & ORDER MEANS
FULFILMENT COMPANY
6
2
8
1
PSD
HOST
PSD
INTERNET
PSD
1
1
4
10
5
PRODUCT STORAGE DEVICE
1
EFT
3
3
USER ATTENDS AT PRODUCT STORAGE DEVICE, ENTERS TOKEN & PICKS UP PRODUCT.
USER

FIG. 1

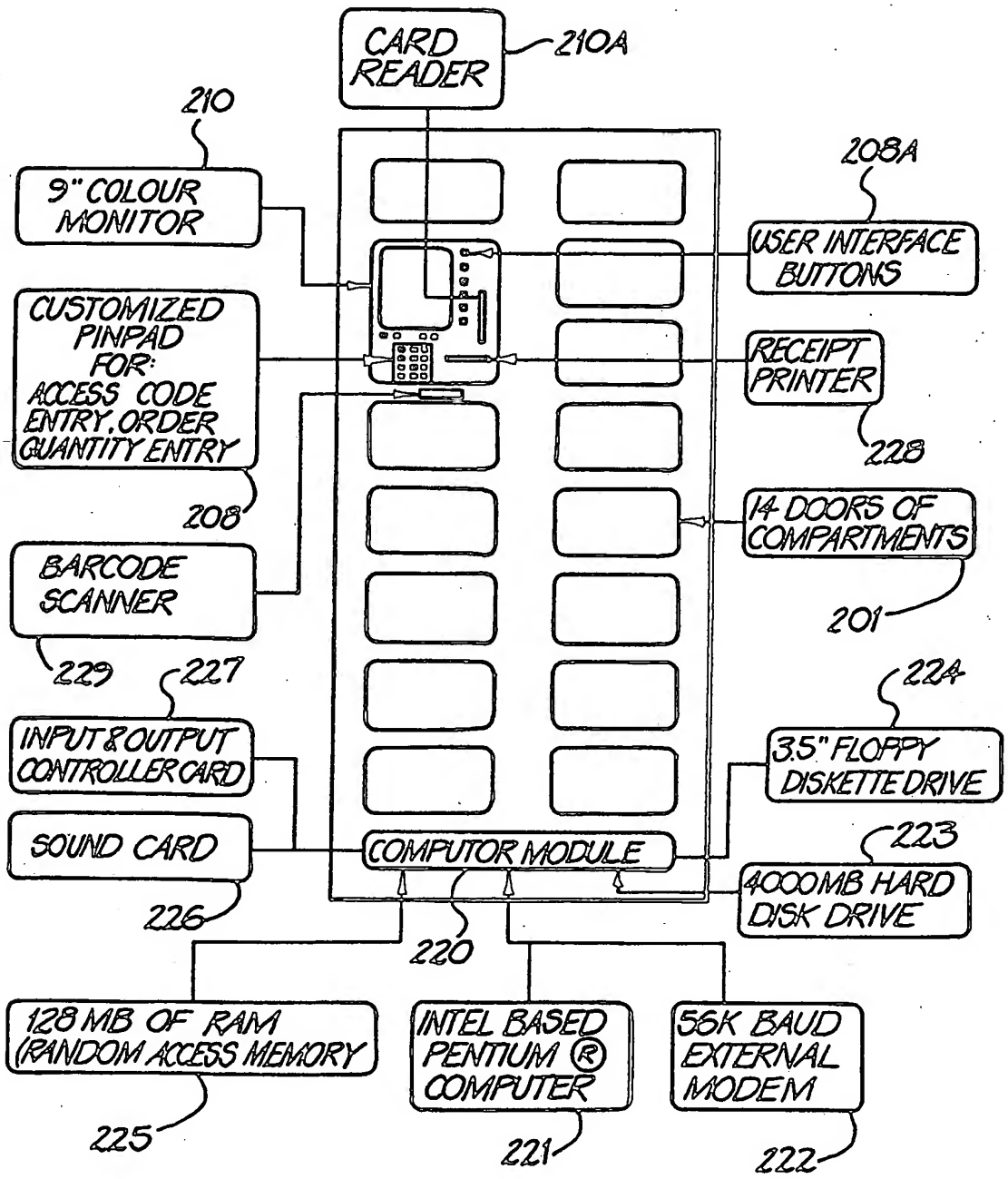
CARD READER
210A
210
9" COLOUR MONITOR
208A
USER INTERFACE BUTTONS
CUSTOMIZED PINPAD FOR: ACCESS CODE ENTRY, ORDER QUANTITY ENTRY
RECEIPT PRINTER
228
208
14 DOORS OF COMPARTMENTS
BARCODE SCANNER
201
229
227
224
INPUT & OUTPUT CONTROLLER CARD
3.5" FLOPPY DISKETTE DRIVE
SOUND CARD
COMPUTOR MODULE
223
4000MB HARD DISK DRIVE
226
220
128 MB OF RAM (RANDOM ACCESS MEMORY
INTEL BASED PENTIUM ® COMPUTER
56K BAUD EXTERNAL MODEM
225
221
222

FIG. 2

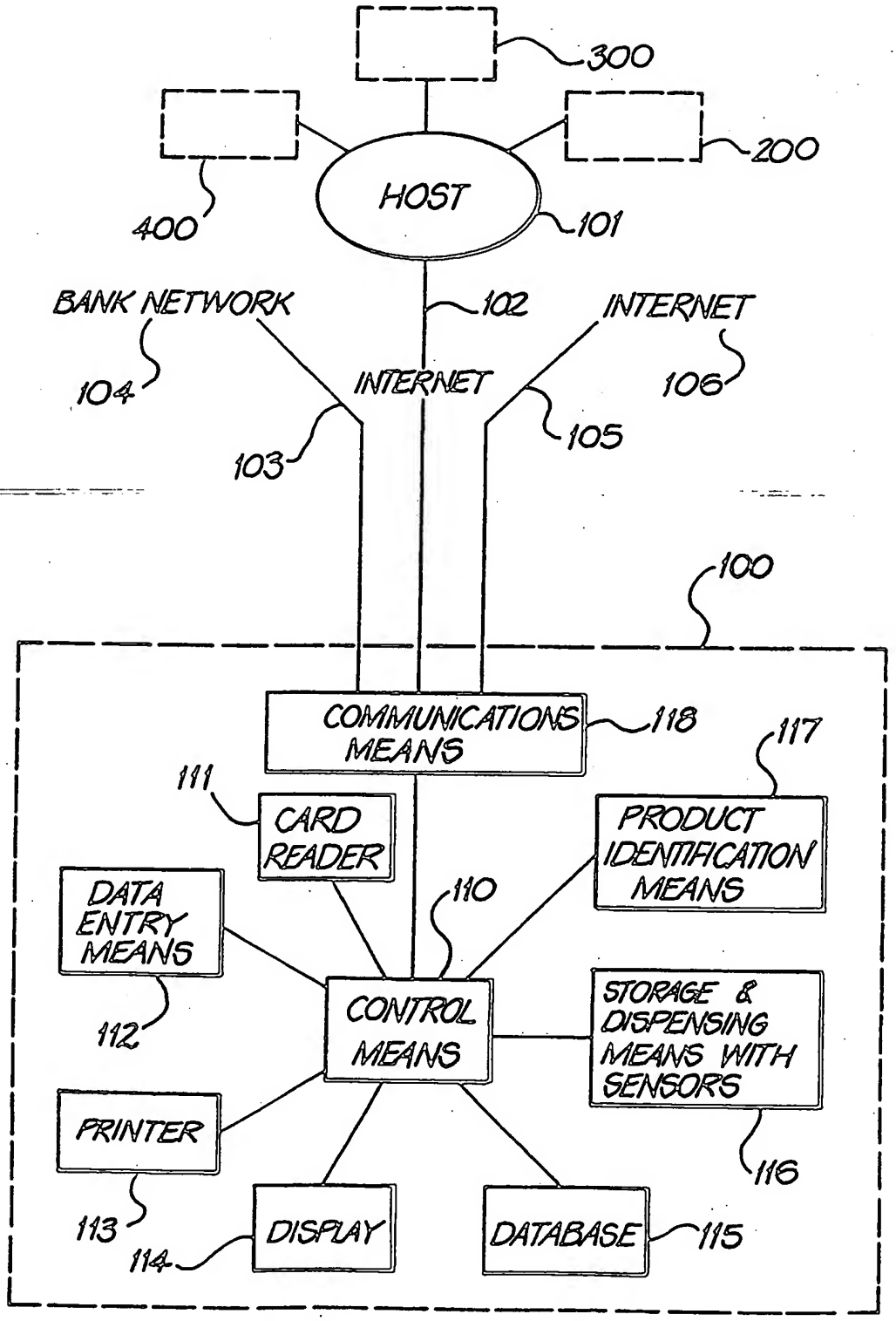
300
200
400
HOST
101
BANK NETWORK
102
INTERNET
104
INTERNET
106
103
105
100
COMMUNICATIONS MEANS
118
117
111
CARD READER
PRODUCT IDENTIFICATION MEANS
DATA ENTRY MEANS
110
112
CONTROL MEANS
STORAGE & DISPENSING MEANS WITH SENSORS
PRINTER
116
113
DISPLAY
DATABASE
115
114

FIG. 3

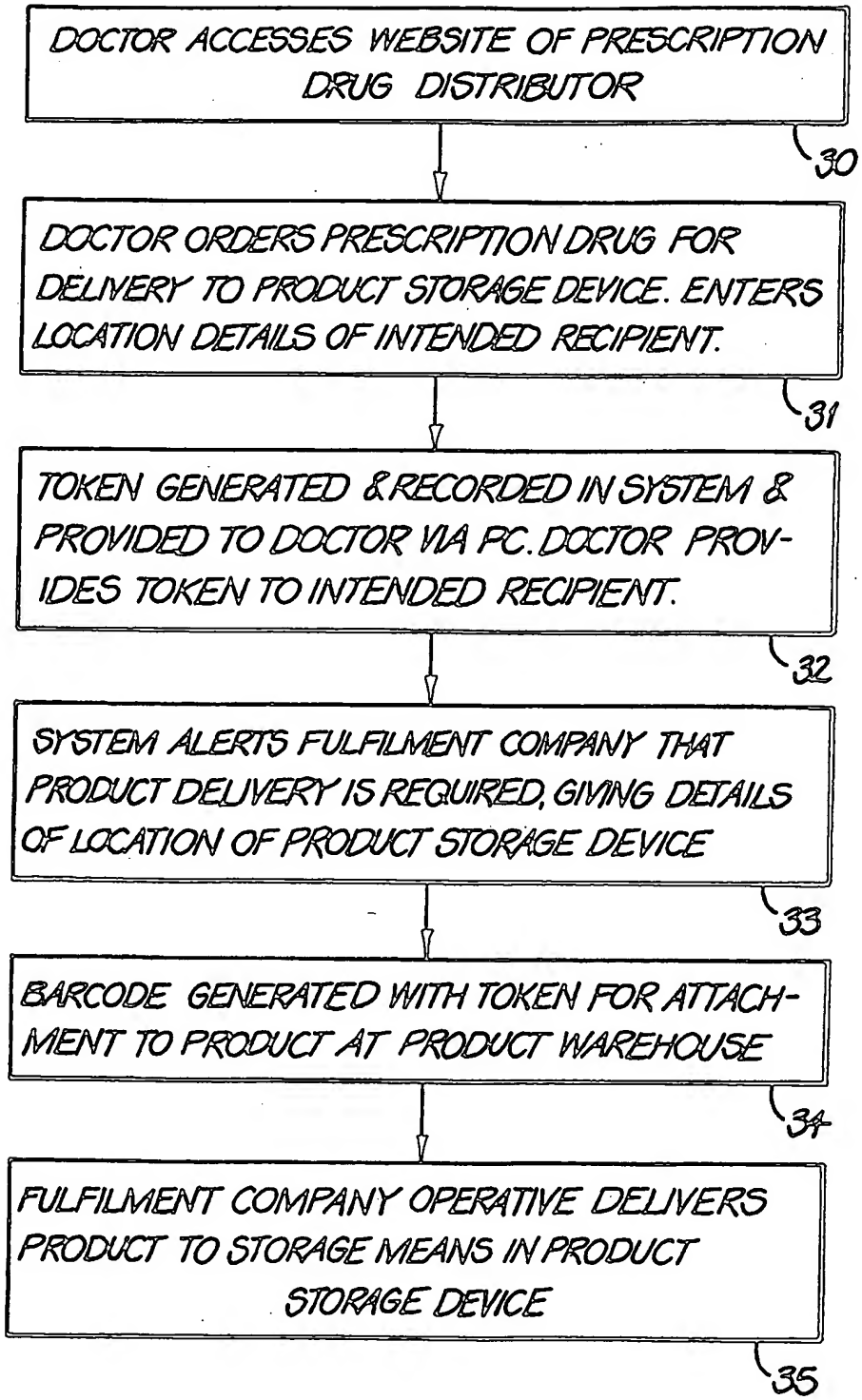
DOCTOR ACCESSES WEBSITE OF PRESCRIPTION DRUG DISTRIBUTOR
30
DOCTOR ORDERS PRESCRIPTION DRUG FOR DELIVERY TO PRODUCT STORAGE DEVICE. ENTERS LOCATION DETAILS OF INTENDED RECIPIENT.
31
TOKEN GENERATED & RECORDED IN SYSTEM & PROVIDED TO DOCTOR VIA PC. DOCTOR PROVIDES TOKEN TO INTENDED RECIPIENT.
32
SYSTEM ALERTS FULFILMENT COMPANY THAT PRODUCT DELIVERY IS REQUIRED, GIVING DETAILS OF LOCATION OF PRODUCT STORAGE DEVICE
33
BARCODE GENERATED WITH TOKEN FOR ATTACHMENT TO PRODUCT AT PRODUCT WAREHOUSE
34
FULFILMENT COMPANY OPERATIVE DELIVERS PRODUCT TO STORAGE MEANS IN PRODUCT STORAGE DEVICE
35

FIG. 4A

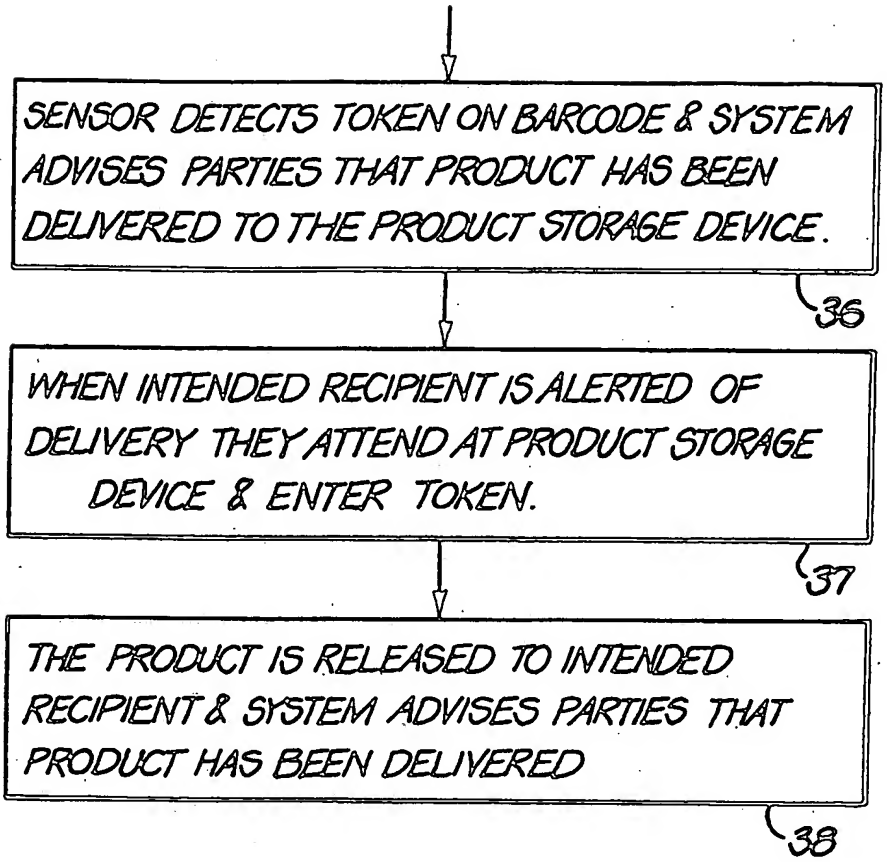
SENSOR DETECTS TOKEN ON BARCODE & SYSTEM ADVISES PARTIES THAT PRODUCT HAS BEEN DELIVERED TO THE PRODUCT STORAGE DEVICE.
36
WHEN INTENDED RECIPIENT IS ALERTED OF DELIVERY THEY ATTEND AT PRODUCT STORAGE DEVICE & ENTER TOKEN.
37
THE PRODUCT IS RELEASED TO INTENDED RECIPIENT & SYSTEM ADVISES PARTIES THAT PRODUCT HAS BEEN DELIVERED
38

FIG. 4B

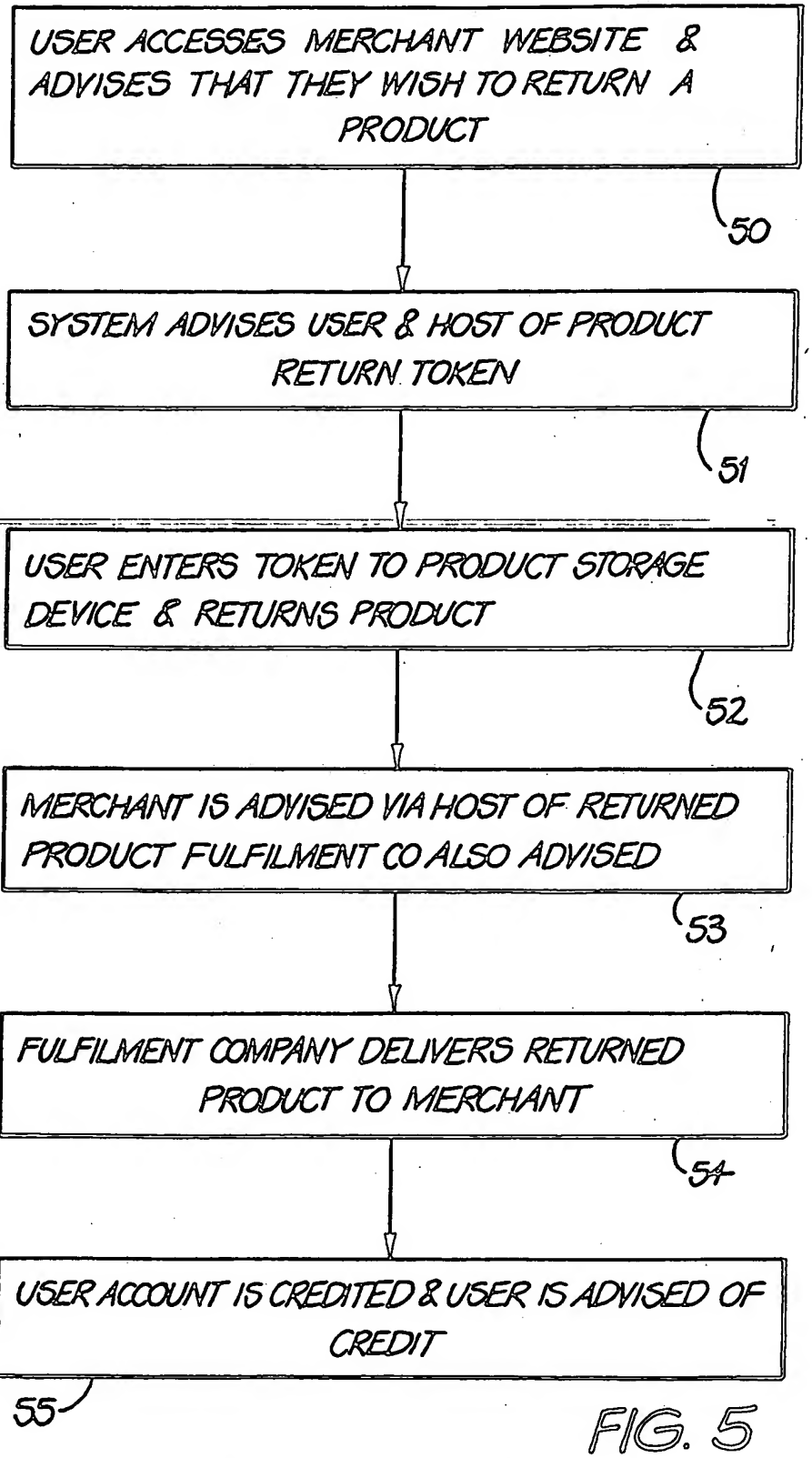
USER ACCESSES MERCHANT WEBSITE & ADVISES THAT THEY WISH TO RETURN A PRODUCT
50
SYSTEM ADVISES USER & HOST OF PRODUCT RETURN TOKEN
51
USER ENTERS TOKEN TO PRODUCT STORAGE DEVICE & RETURNS PRODUCT
52
MERCHANT IS ADVISED VIA HOST OF RETURNED PRODUCT FULFILMENT CO ALSO ADVISED
53
FULFILMENT COMPANY DELIVERS RETURNED PRODUCT TO MERCHANT
54
USER ACCOUNT IS CREDITED & USER IS ADVISED OF CREDIT
55

FIG. 5

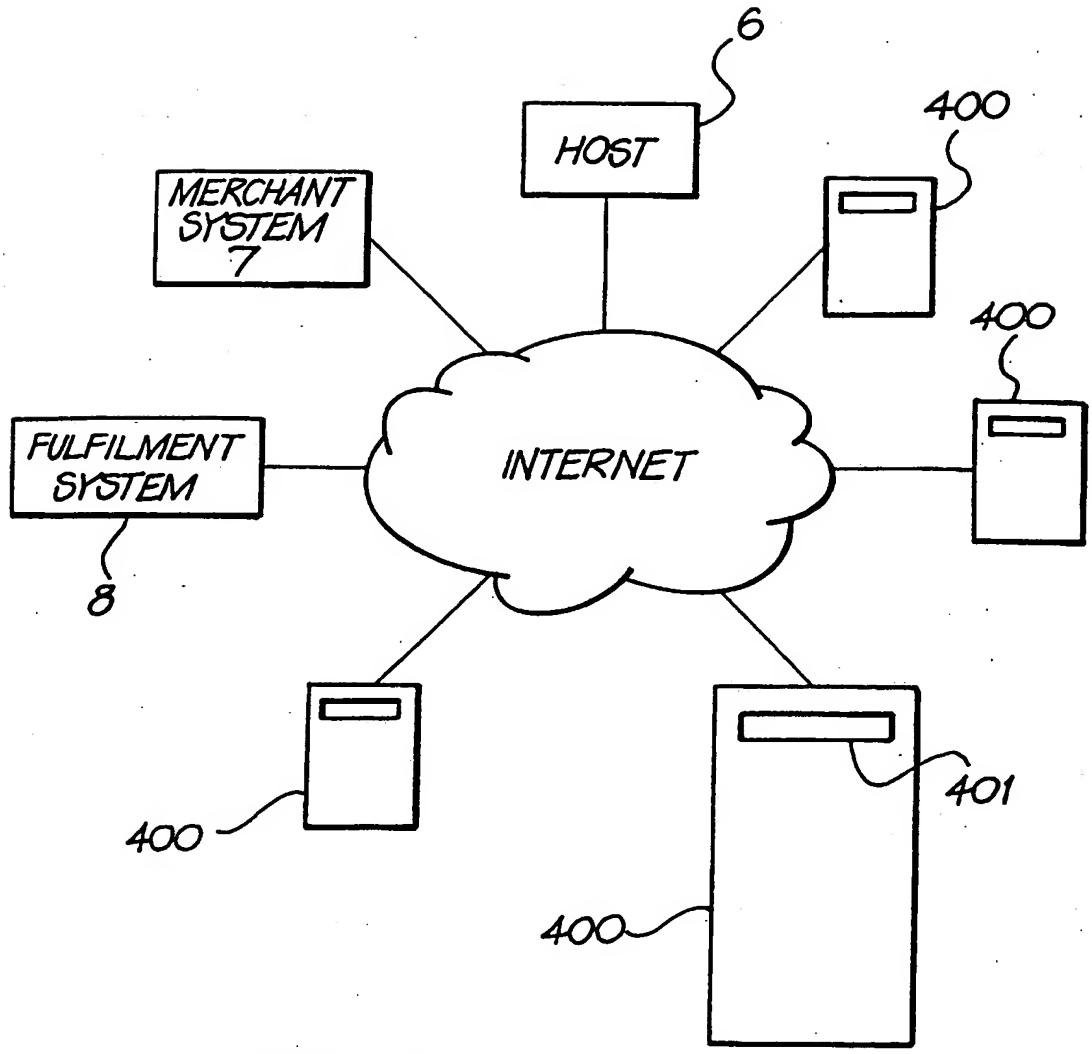
6
HOST
400
MERCHANT SYSTEM 7
400
FULFILMENT SYSTEM
INTERNET
8
400
401
400

FIG. 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU00/01330

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. [7]: G07F 7/08, G06F 17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G07F, G06F 15/21, 17/60, 153:00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPAT
USPTO and Delphion websites

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category°	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/09499 (Imaging Technologies) 25 February 1999.	1-45
X	US 5386462 (Schlamp) 31 January 1995.	1-9, 13-15, 32, 33, 35-40, 43-45
X	WO 94/04446 (Imaging Technologies) 3 March 1994.	46-64
X	EP 359667 (Mors) 4 August 1993.	1-15, 33-36, 38-40, 43-45
X	GB 2258749 (Freer) 17 February 1993.	1-15, 33-36, 38-40, 43-45

[X] Further documents are listed in the continuation of Box C [X] See patent family annex

° Special categories of cited documents:
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"E" earlier application or patent but published on or after the international filing date
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"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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Date of the actual completion of the international search
14 February 2001

Date of mailing of the international search report
21 February 2001

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU00/01330

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5186281 (Jenkins) 16 February 1993.	1-5, 8, 9, 13, 14, 33, 35, 36, 40, 42-45
X	WO 89/09460 (I.V.D.M.) 5 October 1989.	46-64
A	US 5682525 (Bouve et al.) 28 October 1997.	16-19

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/AU00/01330

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
WO	9909499	AU	87215/98	BR	9811326	EP	1004087
US	5386462	EP	535707	DE	4134410		
WO	9404446	EP	654003	NZ	254689	SG	52389
		US	6029851				
EP	359667	FR	2636456				
GB	2258749	NONE					
US	5186281	NONE					
WO	8909460	AU	34113/89	IL	89780	US	4903815
		ZA	8902268	US	4997076		
US	5682525	US	6085177				

END OF ANNEX